REMARKS

Claim Rejections

Claims 9-5 are rejected under 35 U.S.C. § 102(a) as being anticipated by Hsu et al. (5,876,296). Claims 13 and 14 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Hsu et al. in view of Schmidt et al. (5,738,603).

Drawings

It is noted that the proposed drawing changes filed on April 30, 2003 have been approved by the Examiner.

Attached is a LETTER TO THE OFFICIAL DRAFTSPERSON with seven sheets of corrected formal drawings (Figs. 1-8).

New Claims

By this Amendment, Applicant has canceled claim 15, amended claims 9 and 10, and has added new claim 16 to this application. Claim 9 has been amended to incorporate the subject matter of canceled claim 15. It is believed that the new and amended claims specifically set forth each element of Applicant's invention in full compliance with 35 U.S.C. § 112, and define subject matter that is patentably distinguishable over the cited prior art, taken individually or in combination.

The primary reference to Hsu et al. recites a gear shifting sprocket set for bicycle chain wheel having a large sprocket (1) being coaxial with a small sprocket (2) and being provided with an axially oriented recess (14) located in a bottom (111) which is located between a first tooth (11) and a second tooth (12). The large sprocket (1) having a support protrusion (18) and a flat smooth receiving strip (19) on a support protrusion. Hsu et al. sates at col. 2, lines 54-57:

> The large sprocket 1 is coaxial with the small sprocket 2 and is provided with an axially oriented recess 14 located in a bottom 111 which is located between a first tooth 11 and a second tooth 12. [Emphasis added]

Hsu et al. teaches a recess (14) located between a first and second tooth (11, 12), whereas in the present invention the recession (324) is located below the first tooth (321) and extends below an adjacent tooth. Further, Hsu et al. states at col. 2, lines 60-65:

> The large sprocket 1 is further provided with a support protrusion 18 opposite to one side of the small sprocket 2, and a flat and smooth receiving strip 19 located under the support curved face 16 such that the receiving strip 19 is separated from the support curved face 16 by a distance of about one tooth pitch.

Hsu et al. teaches that the support protrusion (18) is attached to the large sprocket and is located one tooth pitch below the curved face (16) between the first and second tooth (11, 12), but does not teach that the projection surface (325) is integrally made with and extending from the large sprocket toward the small sprocket adjacent to a tooth valley bottom edge between the first characteristic tooth (321) and the second characteristic tooth (322). Further, Hsu et al. teaches the support protrusion having a flat and smooth receiving strip (19), but does not teach the projection surface (325) having a top edge with a curvature matching a path and curvature of a chain nor does Hsu et al. teach the projection surface (325) having a slant edge (3252).

Hsu et al. does not teach the cutting portion (328) being between the curved surface of the first characteristic tooth and the top edge of the projecting surface.

As noted by the Examiner on page 3 of the outstanding Office Action, Hsu et al. does not "disclose reducing the height of the first and second teeth relative to the other teeth on the sprocket."

It is axiomatic in U.S. patent law that, in order for a reference to anticipate a claimed structure, it must clearly disclose each and every feature of the claimed structure. Applicant submits that it is abundantly clear that Hsu et al. does not disclose each and every feature of Applicant's new claims and, therefore, could not possibly anticipate these claims under 35 U.S.C. § 102. Specifically, Hsu et al. does not teach: 1) a recession formed in the large sprocket below the first characteristic tooth; 2) a projection surface integrally made with and extending from the large sprocket toward the small sprocket adjacent to a tooth valley bottom edge between the first characteristic tooth and a second characteristic tooth; 3) the projection surface having a top edge with a curvature matching a path and curvature of a chain; 4) the cutting portion being between the curved surface of the first characteristic tooth and the top edge of the projecting surface; 5) the projection surface has a slant; 6) the recession extends from below the first characteristic tooth to below an adjacent tooth; 7) a tooth top of the first characteristic tooth is cut a predetermined amount such that the first characteristic tooth is a shortened tooth; nor does Hsu et al. teach 8) a tooth top of the second characteristic tooth is cut a predetermined amount such that the second characteristic tooth is a shortened tooth. Absent a specific showing of these features, Hsu et al. cannot be said to anticipate any of Applicant's new claims under 35 U.S.C. § 102.

The secondary reference to Schmidt et al. discloses a derailleur including sprockets (A, B, C), conical rivets (1) with a sharp edge (2), one conical rivet is connected to each of the sprockets (A, B), and a recess (14) between two teeth (B3, B4) of sprocket (B).

Schmidt et al. teaches a recess (14) formed between two teeth (B1, B2), but does not teach a recession (324) formed in the large sprocket below the first characteristic tooth. Schmidt et al. does not teach a projection surface integrally made with and extending from the large sprocket toward the small sprocket adjacent to a tooth valley bottom edge between the first characteristic tooth and a second characteristic tooth; the projection surface having a top edge with a curvature matching a path and curvature of a chain; nor does Schmidt et al. teach the cutting

portion being between the curved surface of the first characteristic tooth and the top edge of the projecting surface.

Even if the teachings of Hsu et al. and Schmidt et al. were combined, as suggested by the Examiner, the resultant combination does not suggest: 1) a recession formed in the large sprocket below the first characteristic tooth; 2) a projection surface integrally made with and extending from the large sprocket toward the small sprocket adjacent to a tooth valley bottom edge between the first characteristic tooth and a second characteristic tooth; 3) the projection surface having a top edge with a curvature matching a path and curvature of a chain; nor does the combination teach 4) the cutting portion being between the curved surface of the first characteristic tooth and the top edge of the projecting surface.

It is a basic principle of U.S. patent law that it is improper to arbitrarily pick and choose prior art patents and combine selected portions of the selected patents on the basis of Applicant's disclosure to create a hypothetical combination which allegedly renders a claim obvious, unless there is some direction in the selected prior art patents to combine the selected teachings in a manner so as to negate the patentability of the claimed subject matter. This principle was enunciated over 40 years ago by the Court of Customs and Patent Appeals in In re Rothermel and Waddell, 125 USPQ 328 (CCPA 1960) wherein the court stated, at page 331:

> The examiner and the board in rejecting the appealed claims did so by what appears to us to be a piecemeal reconstruction of the prior art patents in the light of appellants' disclosure. ... It is easy now to attribute to this prior art the knowledge which was first made available by appellants and then to assume that it would have been obvious to one having the ordinary skill in the art to make these suggested reconstructions. While such a reconstruction of the art may be an alluring way to rationalize a rejection of the claims, it is not the type of rejection which the statute authorizes.

The same conclusion was later reached by the Court of Appeals for the Federal Circuit in Orthopedic Equipment Company Inc. v. United States, 217 USPQ 193 (Fed.Cir. 1983). In that decision, the court stated, at page 199:

> As has been previously explained, the available art shows each of the elements of the claims in suit. Armed with this information, would it then be non-obvious to this person of ordinary skill in the art to coordinate these elements in the same manner as the claims in suit? The difficulty which attaches to all honest attempts to answer this question can be attributed to the strong temptation to rely on hindsight while undertaking this evaluation. It is wrong to use the patent in suit as a guide through the maze of prior art references, combining the right references in the right way so as to achieve the result of the claims in suit. Monday morning quarterbacking is quite improper when resolving the question of non-obviousness in a court of law.

In In re Geiger, 2 USPQ2d, 1276 (Fed.Cir. 1987) the court stated, at page 1278:

> We agree with appellant that the PTO has failed to establish a *prima facie* case of obviousness. Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching suggestion or incentive supporting the combination.

Applicant submits that there is not the slightest suggestion in either Hsu et al., or Schmidt et al. that their respective teachings may be combined as suggested by the Examiner. Case law is clear that, absent any such teaching or suggestion in the prior art, such a combination cannot be made under 35 U.S.C. § 103.

Neither Hsu et al., nor Schmidt et al. disclose, or suggest a modification of their specifically disclosed structures that would lead one having ordinary skill in the art to arrive at Applicant's claimed structure. Applicant hereby respectfully submits that no combination of the cited prior art renders obvious any of Applicant's claims.

Summary

In view of the foregoing, Applicant submits that this application is now in condition for allowance and such action is respectfully requested.

Should any points remain in issue, which the Examiner feels could best be resolved by either a personal or a telephone interview, it is urged that Applicant's local attorney be contacted at the exchange listed below.

Respectfully submitted,

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